SANTA CRUZ BIOTECHNOLOGY, INC.

CYP2W1 siRNA (m): sc-142710

BACKGROUND

P450 enzymes constitute a family of monooxygenase enzymes that are involved in the metabolism of a wide array of endogenous and xenobiotic compounds. There are currently 57 known active cytochrome P450 (CYP) genes and 58 known pseudogenes present in the human genome. Several P450 enzymes have been classified by sequence similarities as members of the CYP1A and CYP2A subfamilies. CYP2W1 is a 490 amino acid protein that belongs to the CYP2 family of cytochrome P450 proteins. These proteins are usually involved in the metabolism of foreign compounds. CYP2W1 metabolizes arachidonic acid and catalyzes the oxidation of indole. CP2W1 represents a tumor-specific P450 isoform that is universally conserved in vertebrates and is a potential drug target in cancer therapeutics.

REFERENCES

1. Ingelman-Sundberg, M. 2005. The human genome project and novel aspects of cytochrome P450 research. Toxicol. Appl. Pharmacol. 207: 52-56.
2. Karlgren, M., et al. 2005. Novel extrahepatic cytochrome P450s. Toxicol. Appl. Pharmacol. 207: 57-61.
3. Kumarakulasingham, M., et al. 2005. Cytochrome P450 profile of colorectal cancer: identification of markers of prognosis. Clin. Cancer Res. 11: 3758-3765.
4. Yoshioka, H., et al. 2006. Enzymatic properties of human CYP2W1 expressed in *Escherichia coli*. Biochem. Biophys. Res. Commun. 345: 169-174.
5. Karlgren, M., et al. 2006. Tumor-specific expression of the novel cytochrome P450 enzyme, CYP2W1. Biochem. Biophys. Res. Commun. 341: 451-458.

CHROMOSOMAL LOCATION

Genetic locus: Cyp2w1 (mouse) mapping to 5 G2.

PRODUCT

CYP2W1 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CYP2W1 shRNA Plasmid (m): sc-142710-SH and CYP2W1 shRNA (m) Lentiviral Particles: sc-142710-V as alternate gene silencing products.

For independent verification of CYP2W1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-142710A, sc-142710B and sc-142710C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CYP2W1 siRNA (m) is recommended for the inhibition of CYP2W1 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CYP2W1 gene expression knockdown using RT-PCR Primer: CYP2W1 (m)-PR: sc-142710-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.